FIG. 1

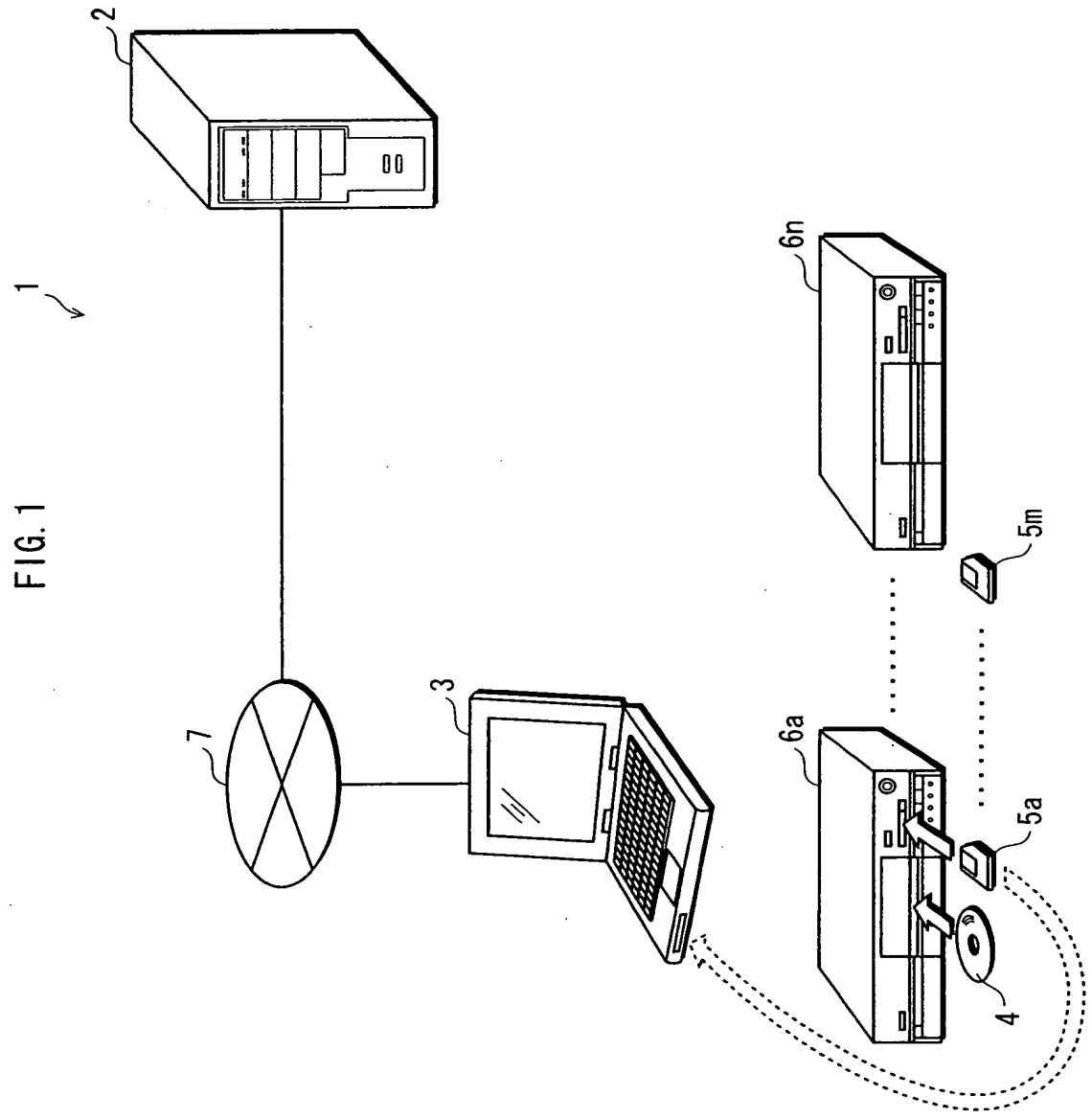


FIG. 2

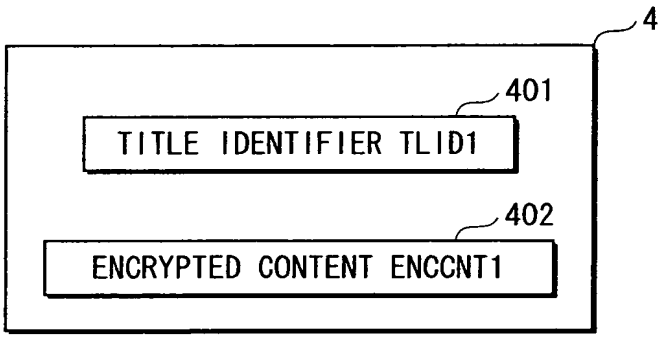

4
401
TITLE IDENTIFIER TLID1
402
ENCRYPTED CONTENT ENCCNT1

FIG. 3A

501

USER TERMINAL IDENTIFIER	FIRST USER TERMINAL RANDOM NUMBER	SECOND USER TERMINAL RANDOM NUMBER	TITLE IDENTIFIER	ENCRYPTED TITLE KEY
0	0	0	0	0
⋮	⋮	⋮	⋮	⋮

FIG. 3B

501

USER TERMINAL IDENTIFIER	FIRST USER TERMINAL RANDOM NUMBER	SECOND USER TERMINAL RANDOM NUMBER	TITLE IDENTIFIER	ENCRYPTED TITLE KEY
TMIDa	TMRND1a	0	0	0
⋮	⋮	⋮	⋮	⋮

511 512

FIG. 3C

501

USER TERMINAL IDENTIFIER	FIRST USER TERMINAL RANDOM NUMBER	SECOND USER TERMINAL RANDOM NUMBER	TITLE IDENTIFIER	ENCRYPTED TITLE KEY
TMIDa	TMRND1a	TMRND2a	TLID1	ENC(Ika,TLK1)
⋮	⋮	⋮	⋮	⋮

531

513 514 515 516 517

FIG. 3D

501

USER TERMINAL IDENTIFIER	FIRST USER TERMINAL RANDOM NUMBER	SECOND USER TERMINAL RANDOM NUMBER	TITLE IDENTIFIER	ENCRYPTED TITLE KEY
TMIDa	TMRND2a	0	0	0
⋮	⋮	⋮	⋮	⋮

518 519 520 521 523

FIG. 4

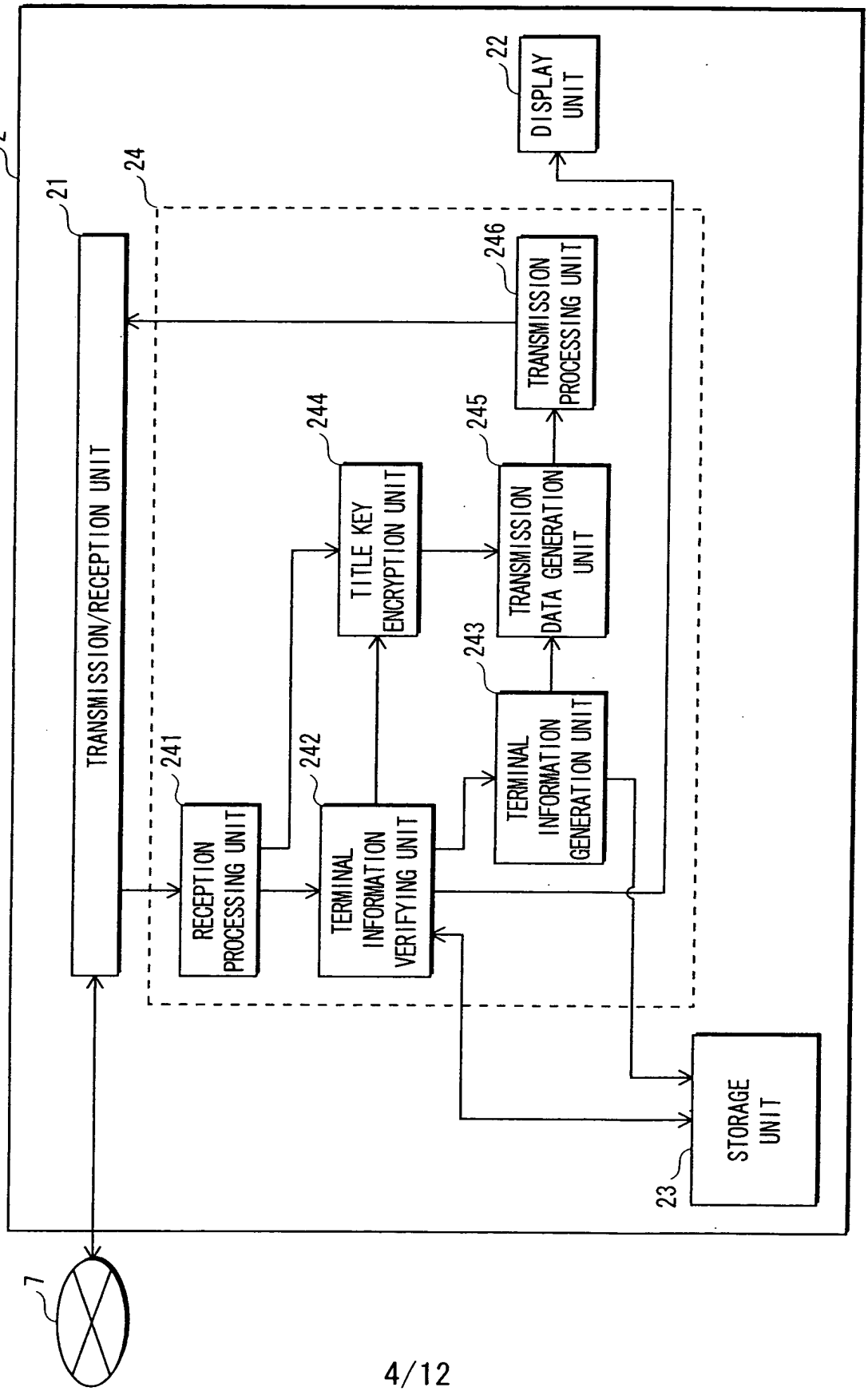

2
21
24
22
DISPLAY UNIT
TRANSMISSION/RECEPTION UNIT
246
TRANSMISSION PROCESSING UNIT
244
245
TITLE KEY ENCRYPTION UNIT
TRANSMISSION DATA GENERATION UNIT
243
241
242
RECEPTION PROCESSING UNIT
TERMINAL INFORMATION VERIFYING UNIT
TERMINAL INFORMATION GENERATION UNIT
STORAGE UNIT
23
7

FIG. 5

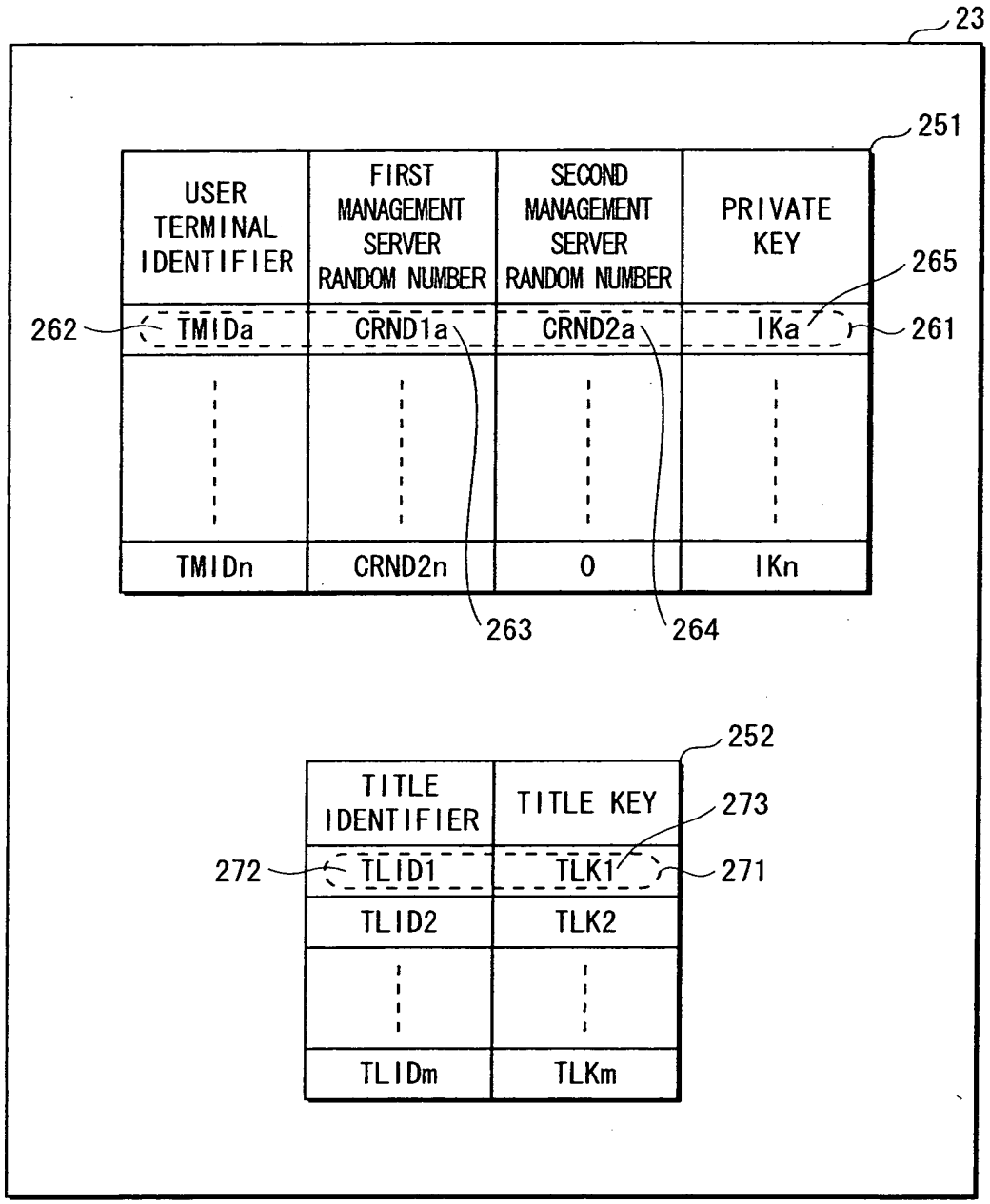

23
251
USER TERMINAL IDENTIFIER
FIRST MANAGEMENT SERVER RANDOM NUMBER
SECOND MANAGEMENT SERVER RANDOM NUMBER
PRIVATE KEY
265
262
TMIDa
CRND1a
CRND2a
IKa
261
TMIDn
CRND2n
0
IKn
263
264
252
TITLE IDENTIFIER
TITLE KEY
273
272
TLID1
TLK1
271
TLID2
TLK2
TLIDm
TLKm

FIG. 6

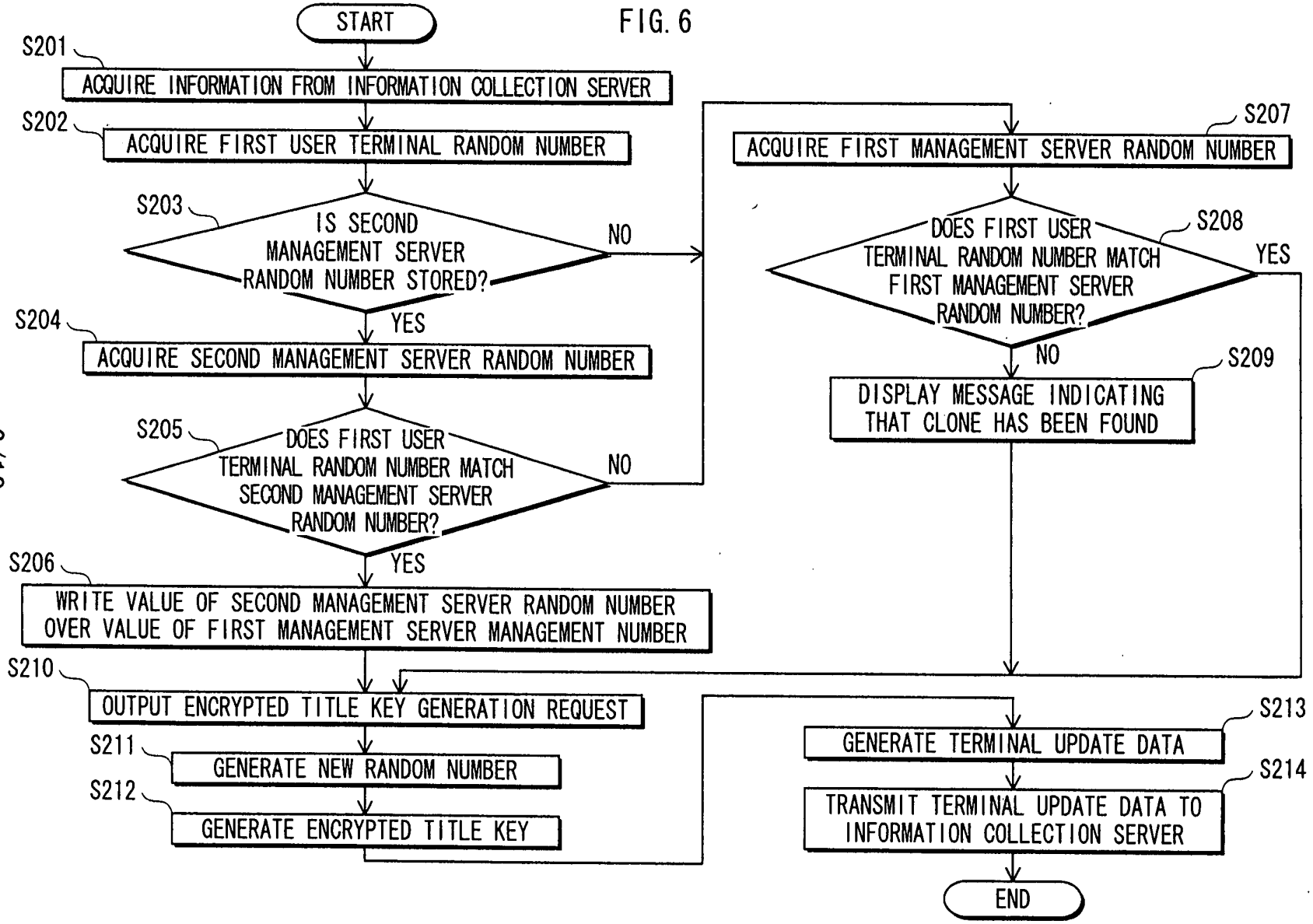

START
S201
ACQUIRE INFORMATION FROM INFORMATION COLLECTION SERVER
S202
ACQUIRE FIRST USER TERMINAL RANDOM NUMBER
S203
IS SECOND MANAGEMENT SERVER RANDOM NUMBER STORED?
NO
YES
S204
ACQUIRE SECOND MANAGEMENT SERVER RANDOM NUMBER
S205
DOES FIRST USER TERMINAL RANDOM NUMBER MATCH SECOND MANAGEMENT SERVER RANDOM NUMBER?
NO
YES
S206
WRITE VALUE OF SECOND MANAGEMENT SERVER RANDOM NUMBER OVER VALUE OF FIRST MANAGEMENT SERVER MANAGEMENT NUMBER
S207
ACQUIRE FIRST MANAGEMENT SERVER RANDOM NUMBER
S208
DOES FIRST USER TERMINAL RANDOM NUMBER MATCH FIRST MANAGEMENT SERVER RANDOM NUMBER?
YES
NO
S209
DISPLAY MESSAGE INDICATING THAT CLONE HAS BEEN FOUND
S210
OUTPUT ENCRYPTED TITLE KEY GENERATION REQUEST
S211
GENERATE NEW RANDOM NUMBER
S212
GENERATE ENCRYPTED TITLE KEY
S213
GENERATE TERMINAL UPDATE DATA
S214
TRANSMIT TERMINAL UPDATE DATA TO INFORMATION COLLECTION SERVER
END

FIG. 7

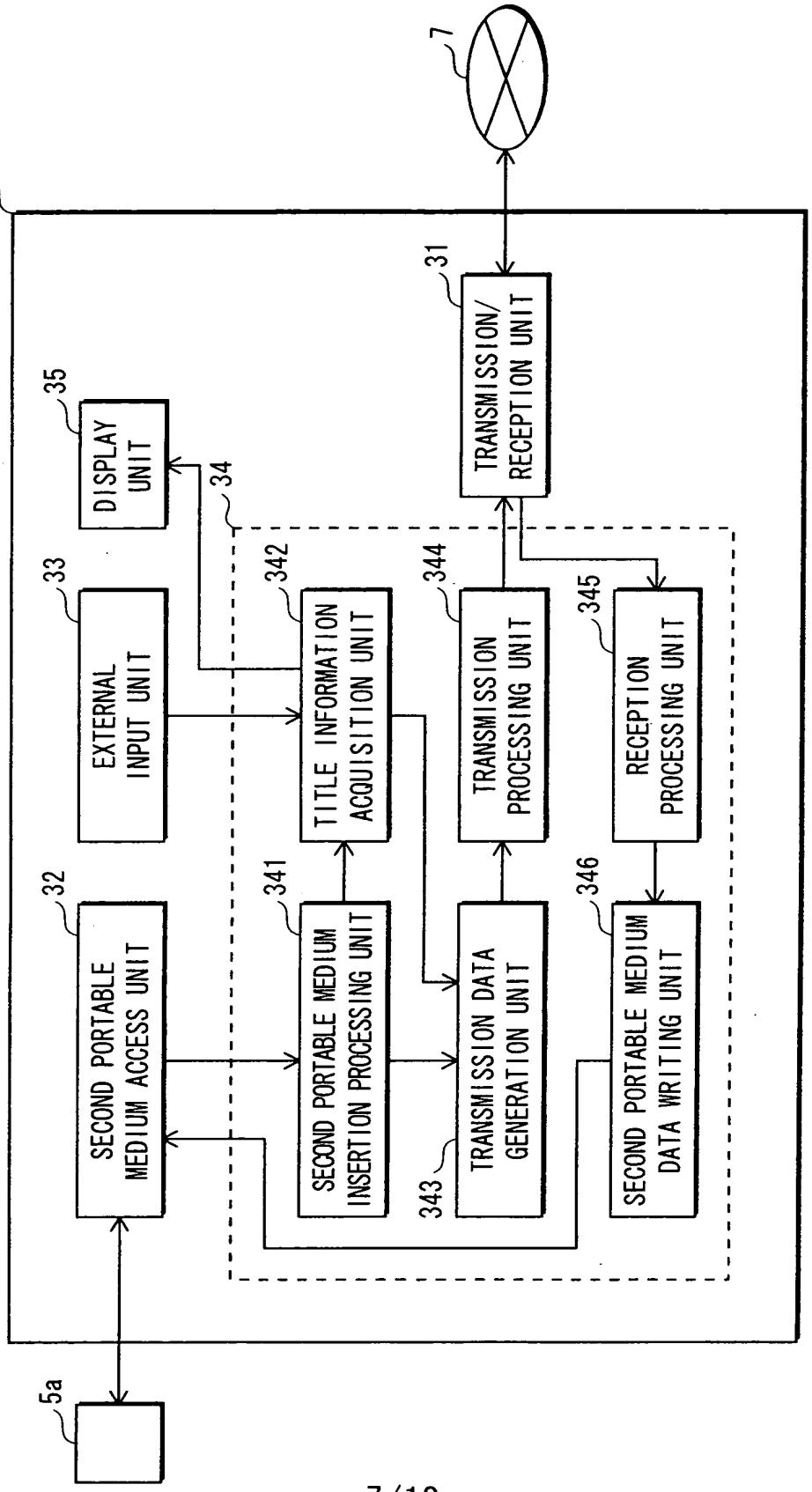

7
3
31
TRANSMISSION/
RECEPTION UNIT
35
DISPLAY
UNIT
34
33
EXTERNAL
INPUT UNIT
342
TITLE INFORMATION
ACQUISITION UNIT
344
TRANSMISSION
PROCESSING UNIT
345
RECEPTION
PROCESSING UNIT
32
SECOND PORTABLE
MEDIUM ACCESS UNIT
341
SECOND PORTABLE MEDIUM
INSERTION PROCESSING UNIT
343
TRANSMISSION DATA
GENERATION UNIT
346
SECOND PORTABLE MEDIUM
DATA WRITING UNIT
5a

FIG. 8

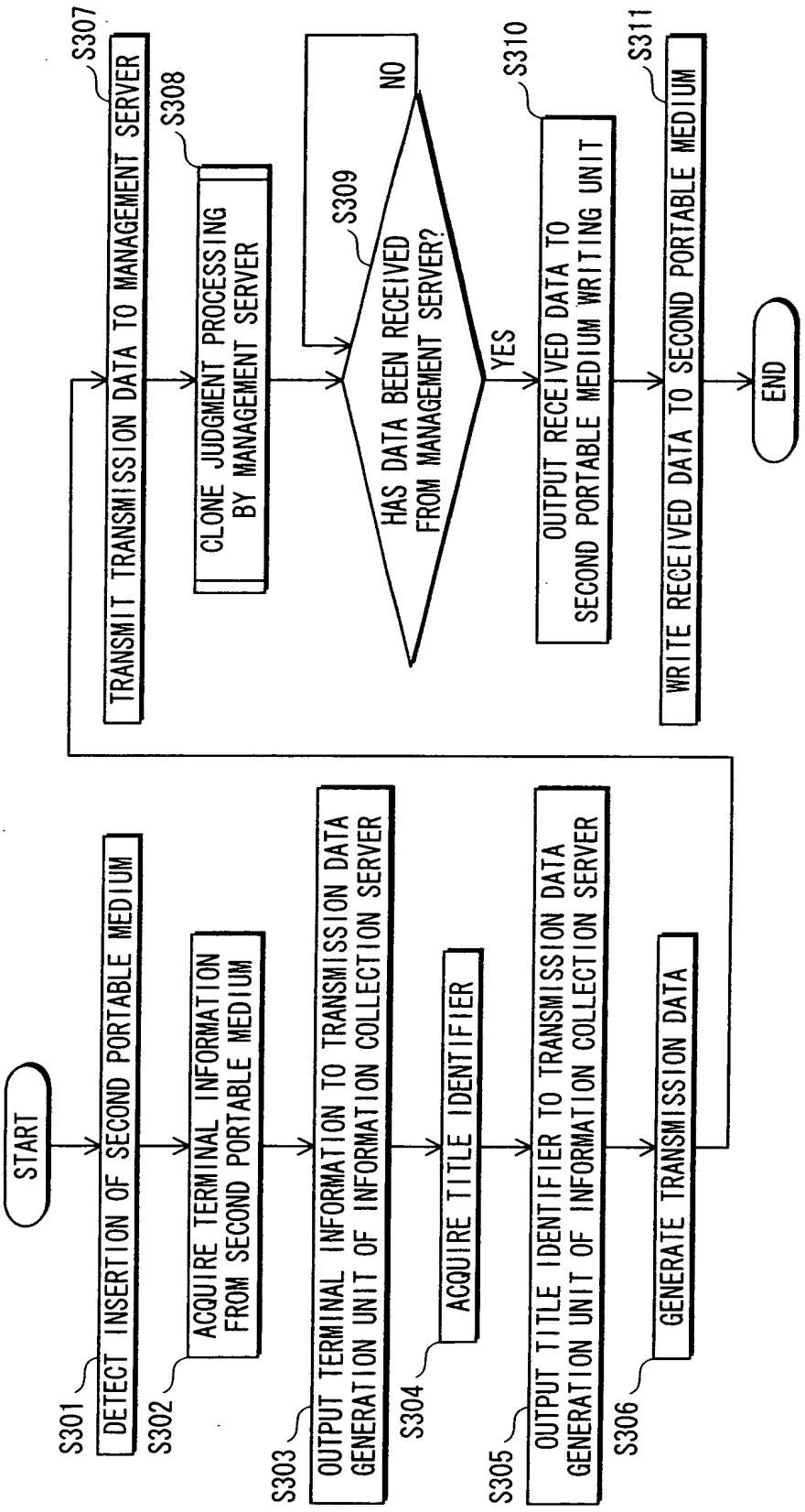

START
S301
DETECT INSERTION OF SECOND PORTABLE MEDIUM
S302
ACQUIRE TERMINAL INFORMATION FROM SECOND PORTABLE MEDIUM
S303
OUTPUT TERMINAL INFORMATION TO TRANSMISSION DATA GENERATION UNIT OF INFORMATION COLLECTION SERVER
S304
ACQUIRE TITLE IDENTIFIER
S305
OUTPUT TITLE IDENTIFIER TO TRANSMISSION DATA GENERATION UNIT OF INFORMATION COLLECTION SERVER
S306
GENERATE TRANSMISSION DATA
S307
TRANSMIT TRANSMISSION DATA TO MANAGEMENT SERVER
S308
CLONE JUDGMENT PROCESSING BY MANAGEMENT SERVER
S309
HAS DATA BEEN RECEIVED FROM MANAGEMENT SERVER?
NO
YES
S310
OUTPUT RECEIVED DATA TO SECOND PORTABLE MEDIUM WRITING UNIT
S311
WRITE RECEIVED DATA TO SECOND PORTABLE MEDIUM
END

FIG. 9

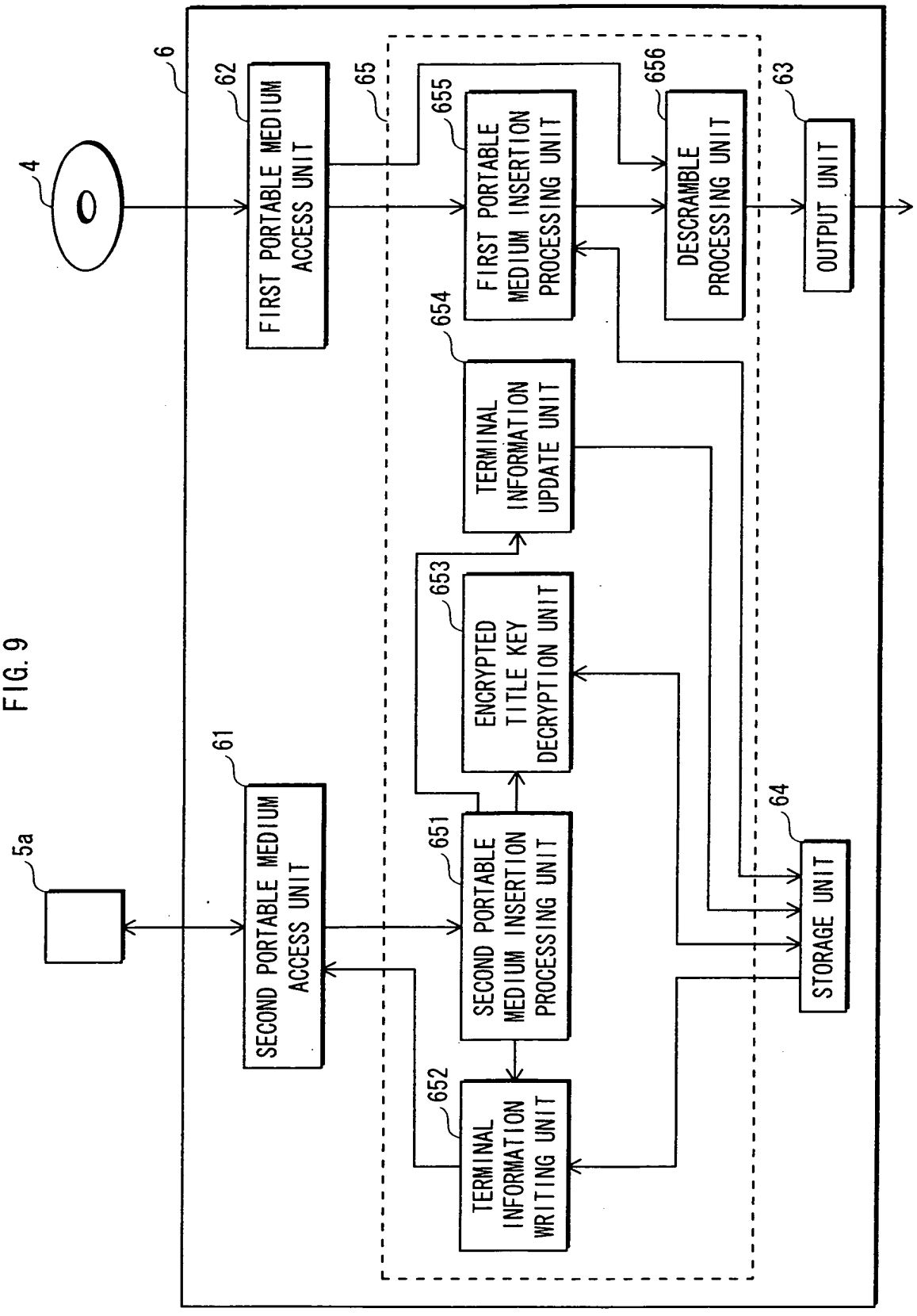

6
4
62
FIRST PORTABLE MEDIUM ACCESS UNIT
65
655
FIRST PORTABLE MEDIUM INSERTION PROCESSING UNIT
656
DESCRAMBLE PROCESSING UNIT
63
OUTPUT UNIT
654
TERMINAL INFORMATION UPDATE UNIT
653
ENCRYPTED TITLE KEY DECRYPTION UNIT
61
SECOND PORTABLE MEDIUM ACCESS UNIT
651
SECOND PORTABLE MEDIUM INSERTION PROCESSING UNIT
64
STORAGE UNIT
5a
652
TERMINAL INFORMATION WRITING UNIT

FIG. 10

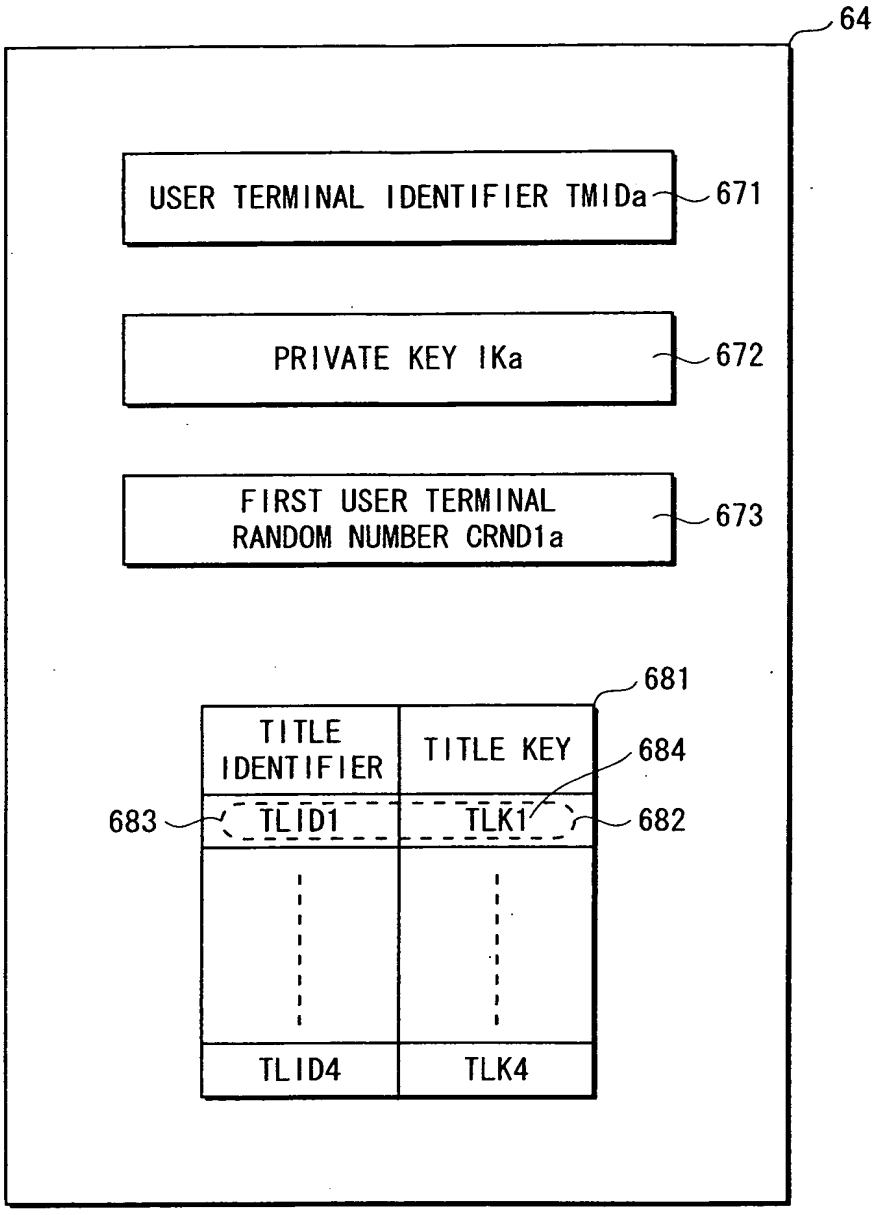

64
USER TERMINAL IDENTIFIER TMIDa
671
PRIVATE KEY IKa
672
FIRST USER TERMINAL RANDOM NUMBER CRND1a
673
681
TITLE IDENTIFIER
TITLE KEY
684
683
TLID1
TLK1
682
TLID4
TLK4

FIG. 11

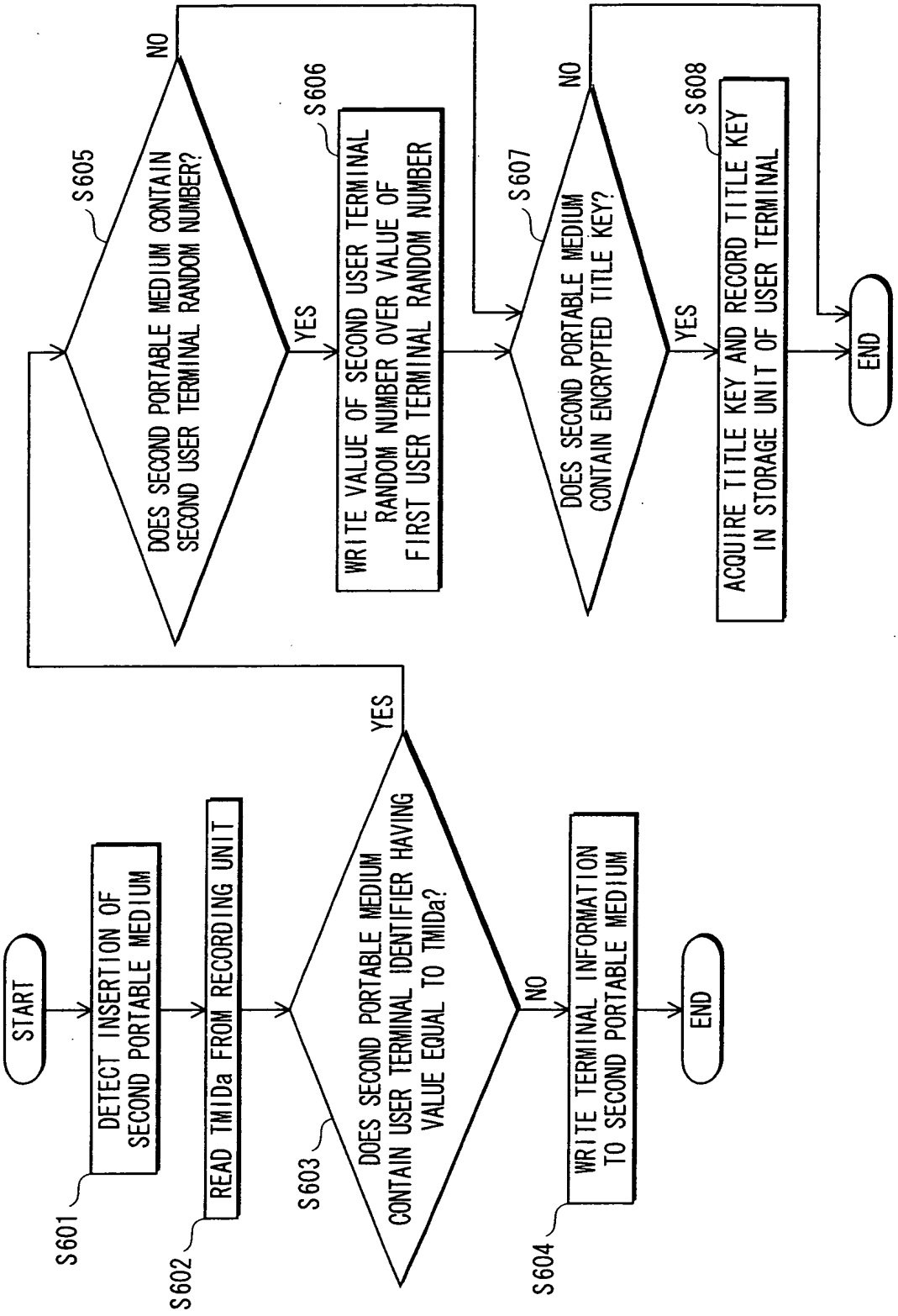
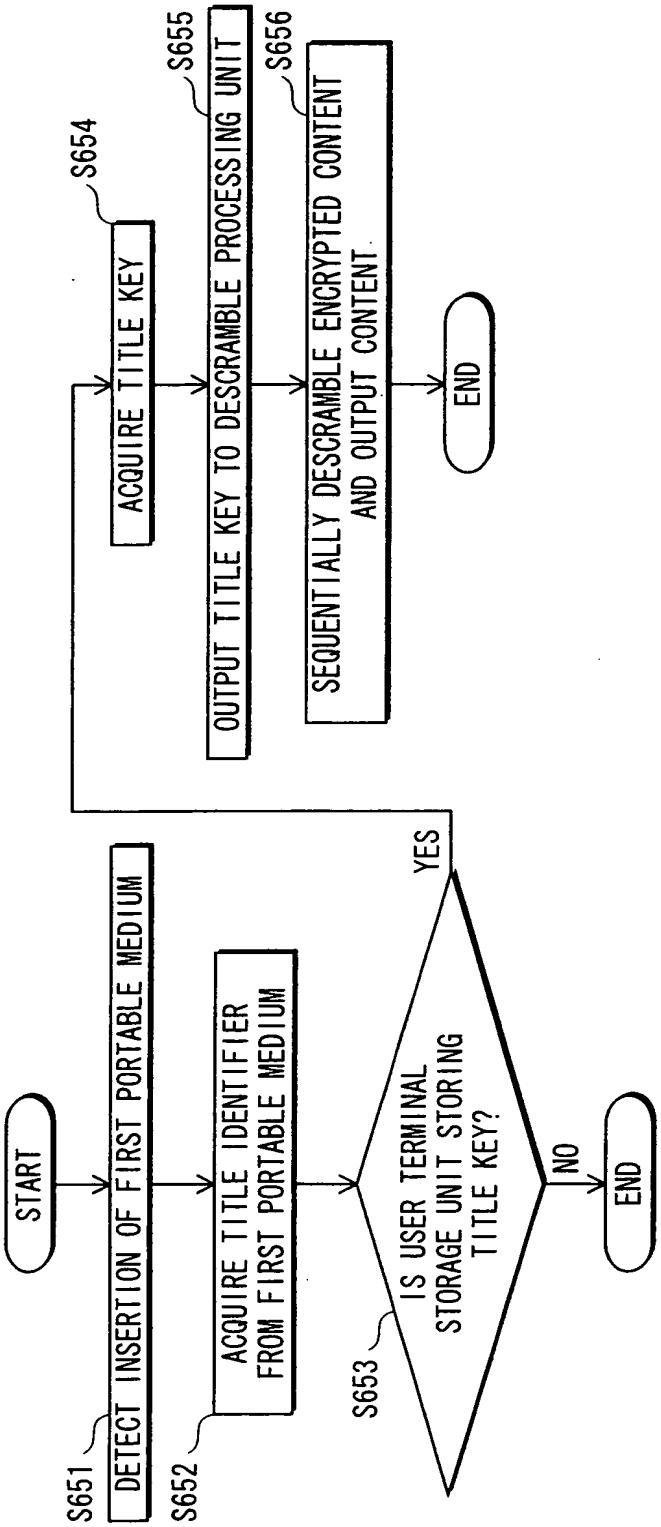

START
DETECT INSERTION OF SECOND PORTABLE MEDIUM
S601
READ TMIDa FROM RECORDING UNIT
S602
DOES SECOND PORTABLE MEDIUM CONTAIN USER TERMINAL IDENTIFIER HAVING VALUE EQUAL TO TMIDa?
S603
YES
NO
WRITE TERMINAL INFORMATION TO SECOND PORTABLE MEDIUM
S604
END
DOES SECOND PORTABLE MEDIUM CONTAIN SECOND USER TERMINAL RANDOM NUMBER?
S605
NO
YES
WRITE VALUE OF SECOND USER TERMINAL RANDOM NUMBER OVER VALUE OF FIRST USER TERMINAL RANDOM NUMBER
S606
DOES SECOND PORTABLE MEDIUM CONTAIN ENCRYPTED TITLE KEY?
S607
NO
YES
ACQUIRE TITLE KEY AND RECORD TITLE KEY IN STORAGE UNIT OF USER TERMINAL
S608
END

FIG. 12


START
S651
DETECT INSERTION OF FIRST PORTABLE MEDIUM
S652
ACQUIRE TITLE IDENTIFIER FROM FIRST PORTABLE MEDIUM
S653
IS USER TERMINAL STORAGE UNIT STORING TITLE KEY?
YES
NO
END
S654
ACQUIRE TITLE KEY
S655
OUTPUT TITLE KEY TO DESCRAMBLE PROCESSING UNIT
S656
SEQUENTIALLY DESCRAMBLE ENCRYPTED CONTENT AND OUTPUT CONTENT
END